Papahānaumokuākea Marine National Monument
Permit Application Cover Sheet

This Permit Application Cover Sheet is intended to provide summary information and status to the public on permit applications for activities proposed to be conducted in the Papahānaumokuākea Marine National Monument. While a permit application has been received, it has not been fully reviewed nor approved by the Monument Management Board to date. The Monument permit process also ensures that all environmental reviews are conducted prior to the issuance of a Monument permit.

Summary Information

Applicant Name: Elizabeth Keenan
Affiliation: NOAA, NOS, Papahanaumokuakea Marine National Monument

Permit Category: Research
Proposed Activity Dates: 6/01/08 - 12/01/09
Proposed Method of Entry (Vessel/Plane): Plane to Midway Atoll
Proposed Locations: Midway Atoll

Estimated number of individuals (including Applicant) to be covered under this permit:
20
Estimated number of days in the Monument: 50

Description of proposed activities: (complete these sentences):

a.) The proposed activity would…

Derelict nets damage shallow coral reefs in multiple ways. Nets may snag and dislodge corals as they are pushed across reefs by swells, surge, and currents. The nets may also settle on living reef, smothering the organisms beneath them. Nets may facilitate introductions of alien and invasive species by allowing them to raft into new areas from distant reefs. Finally, removal of the nets may cause further disturbance to the benthos, including damage to organisms that have settled on the nets themselves. We propose to investigate the impacts from nets that become entangled on the reefs by tracking the changes in the benthic community over time, that occur either after their removal, or when they are left in place. With an estimated 52 metric tons of derelict fishing gear reaching the NWHI each year this is large scale problem likely to continue long into the future.

b.) To accomplish this activity we would ….

To address the question about the type and extent of the effects of nets, either left or removed, on the benthic community, we have designed a study which compares the percent cover of benthic species at different types of sites. The site categories are; a) nets left on the reef, b) nets removed from the reef and c) a control, without having any net on the reef. These sites will be marked permanently, surveyed, photo documented, and resurveyed over time. The field team conducting these surveys will be made up of personnel from the PMNM and CRED, and will have team members on each trip who are

experienced in both marine debris removal techniques and benthic organism identification. The success of this study is improved by the experience that the researchers have in the field and their familiarity with the NWHI.

c.) This activity would help the Monument by …

This project is the first study that looks directly at the impacts that derelict fishing nets have on the benthic communities of the reefs of the Hawaiian Islands. The results will be useful to managers in a number of ways including; influence the determination of whether all nets that are on the reefs should be removed, give managers away to begin to quantify the damage occurring to the benthic communities, and provide the beginnings of a timeline for their potential recovery. These results are readily transferable to reefs outside of the Monument and outside of Hawaii. Furthermore, in the absence of targeted studies for the impacts of other disturbances, such as ship groundings, on Hawaiian reefs, these results can be used to make estimates of damage and predict the recovery rates for these events.

Other information or background: